

Long Sit - E

1/2 sit - 1/2 of body on 1 side.

Spring Sit - 1 L. bend + sit fwd.

## Deformities

A deformity is an acquired or congenital fault of position or the skeletal or motor apparatus i. e. - special curvature, flat foot or club foot. &c. These there is found as a rule shortening of certain mus. & soft parts & lengthening & weakening of their antagonists. In most cases especially if the deformity has lasted for any length of time changes in the shape of bones are found. Hence the obvious & sometimes seemingly attraction deformities are frequently accompanied by functional changes, as in motor apparatus which are very troublesome to the patient.

In treatment of deformity the first principle is to restore faulty position to normal & in addition to this the P. must endeavor to maintain the correct position & to regain power by & the normal function. To restore faulty position to normal, correcting movements are used even in the slightest cases - these are produced strong, long continued stretching & shortening of m. & other soft parts. In more severe cases special appliances apparatus sometimes forced correction with or without cutting of soft parts & crushing & remodeling of bony parts. Not in scope of physical gymnastics.

Active mov. with strong M. work is used for those m. which are lengthened by deformity.



To train normal functional power the normal movements of the part are practiced, maintaining the correct position as far as possible.

### Postural Activity.

Herington demonstrated that the upright posture depends upon reflex muscular activity - this activity is a reflex dependent upon nervous impulses from the muscles themselves, and has been demonstrated only in those mus. which are constantly resisting the influence of gravity - it can be maintained for long periods without fatigue.

Banker - He teaches that the reflex may be inhibited in several ways by other mental forces & that it is in this failure of postural act. that such static deformities as scoliosis - kypholordosis, flat foot & knock knee are sometimes due. The object of gym. treatment in this type of case is to re-educate the postural reflex by means of simple free ex.

### Examination of Posture

1. Head & in front of good light - back to window.
2. Back uncovered.
3. After back is examined, do front, turning to light & notice normal posture as far as possible.
4. Take note of ft - flat feet, knock knees.
5. After examining take notes.



Faulty habitual position is the commonest cause of lateral curvature. The unequal weighting which thus comes acts on the bones, neck & legs. (by which hold up T. & produce this curvature) Scoliosis during teen ages. And esp. at period of puberty. The rapid growth of all parts of the body esp. the legs during this period increases the liability to deformity. If one watches the development of such curvature one finds that the body at first resumes a symmetrical <sup>pos.</sup> in time free from work. After a time m. begin to accommodate themselves to the crooked position and become lengthened & shortened respectively as this takes place. The postural reflex is lost & the P. no longer realizes that her position is crooked & doesn't attempt to correct it, unless she receives treatment the deformity is liable to become fixed and structural changes take place. Phy. Gym. can do much to help: 1. be the want of pupils in her case 2. mild cases corrected early & 3. early structural cases of deformities should be sent 2 a doc who in turn will send P. to proper places to be treated.

#### Causes of Postural Scoliosis.

1. Habitual faulty position
2. Lack of postural tone
3. Bad position during school hrs.
4. Position of lights in school room.
5. Heredity.
6. Child may be liable to developed Scol.

Revised

Back Lying - <sup>with</sup> pelvis raised

Back Lying

Leg Lift Lying -

Side Lying -

Half Lying - low plinth

Stn. by h. point

Prone or Forward Lying - face downwards fully supported  
on plinth

Arch Lying - Taken from prone & arch

Leg Forward Lying - kneeling on high plinth

Arch Leg Forward Lying - same as ? but arch down & up.

Side Lying - on side arm bent under body

Throat patient slightly over

Leg Side Lying - Hgt. support.

Positions derived from hanging

Back hanging - P hangs with B & wall saw into  
1 sec. with N.L. & hips & knees.

Abdominal muscles.

$\frac{1}{2}$  Back Hanging - just, leg raise. Large foot of T.



Kyphosis often associated w. lordosis. Both may be due 2 lack of postural reflex. The marked changes in Kyphosis the lig. & Mus. running in a longitudinal direction at the back of the spine & the chest become lengthened & stretched. In round shoulders the transverse mus. on back of chest esp. shoulder mus. become lengthened, those on front of C. - the pectorals are shortened. The lat. stn. a set of mus. is disturbed. An old story even the curves of clav. are prominent.

#### Causes -

1. Old age - mus. & lig. yield 2 wt. of C.
2. Failure of postural reflex.
3. Occupation in sed. lean. post. - studying etc.
4. If m. on fr. of C. are chiefly used it will also lead 2 round shoulder.
5. Faulty clothing - 2 narrow or 2 short in front.
6. Defective sight & adenoids.

#### Treatment -

In treating child - see clothes fit properly. If work up school etc. should be supervised & faulty post. corrected. Gym. treatment follows gen. lines & treatment of deformities & includes u. ed. of postural defects. Correct post. of O's head. O's gen. Hth should have attention & any other phys. Hth defect corrected. To counteract Kyphosis we give strong, long, passive stretching.

Hang. or ly. with cushion in Bk. Mount.  
w act. with in strong shortening in  
inner range of mount. (4 long M. in sk.)

Stick. Ag. grip. with - Holding.

2 counteract round shoulders - 1. Pressure  
stick. for P. move. Known as chest expansion  
usually given w. breath. 2. Leave grip st.

Head. grip. st. fwd. drawing. 2. Mounts w strong  
act. with in shortening for post. move. of  
seat - Rhomboid. All plane A carrying

3. Mounts on leave pad.

Back just by -

the mounts w. discrimination. H.C.P. -

(as. connective post.)

1. Leave grip. st. - ch. expansion.

2. High neck. grip. st. -

3. L. head draw.

3. Hang. w. cushion in bk. - Ag. on stall bar.

4. Yd. h. fwd. ly. - all plane A's ↑

5. Neck Ag. - neck strain (carrying)

6. Wg. - plane twisting.

7. Neck L. fwd. ly. - holding.

8. Wg. - L. lean - etc. st.

9. T. rolling.

9. Stick. grip. st. - holding (breathing)

10. Stick. with 2. 3. head. 1. stick.

11. Ag. - L. part. & cbs.

12. Stick. grip. st. - fwd. st. draw. - finish  
w P. ly. in act. pos. w or w/out a cushion

13. Neck L. fwd. ly.



Kyphosis angularis - Disease of bone - caused by T. B.  
Acute arthritis in that region.

### Kordosis -

Pelvis forward - curvature of lumbar vertebrae.  
 $50^{\circ} - 60^{\circ}$  from  $\perp$ . Mus. & lig. back of spine  
tight. Shortening of flexors of hips with lengthening  
of Ham strings. Failure of postural reflex <sup>in l. region</sup>.  
Weaknesses of Abd. Mus. Over ex. of back Mus.  
Over treatment in children of Kyphosis.  
Excessive practice of low arch position. Habitual  
wearing of high heel.

### Treatment -

1. Teach correct idea of normal posture. Walk correctly. How to contract slack mus.
2. How to extend hips with knee flexed.
3. H. slightly inverted.
4. Passive stretching to mus. & lig. of spine.
5. Short vigorous stretchings - fwd. dwd. <sup>and</sup> sid.
6. Long continued stretchings - stretch. group sit.
7. Cross-sit. when Ham strings stretch.
8. Long <sup>short knee & saving</sup>
9. Sit. work in strong shortening of stretched mus.

### Scheme I

1. Ab. L. up. draw. in short sit.
2. Ab. down press. (concentric work) by.
3. Ky. T. raise (Repliative) - blood & abd. these must  
be counteracted by depletive ex.
4. P. of T. S's lengthened - Fwd. by. K. bend.  
con & eccentrically
5. L. fwd. by. - holding.



### Scheme II

1. Stick. sitt. - db A bend + stick.
3. " grasp. cik sitt - holding.
4. Short sitt db L updraw.
- 2 1/2 sitt R. bend + stick.
5. Loose grasp - slp stude sitt. - all translation.
6. L. fwd. by. - holding.
7. High side sitt. - T. roll.
8. 4d. long sitt - R K. upw carry.
- Ly-Dr. L upw. lift + dwd. press
10. 4d. slp stud sitt - db Plane A. carry.
11. High side sitt - C expansion.

Between movs. Ther mov. - Hewing & saw &  
H.C.P.

### Resting Position

1. Ik ly - A - N. rest.
2. Rf C. hypochin also - stick. grasp - long sitt.  
N. raise. (start with Chin on Chest)
3. Hang. w. cushion in B.

## Flat Foot

- 1) mobile - treated by gymnastics.
- 2) ossific nod.

Causes - stretched  
tissues - shortened

Arches - 1 Transverse - ball of foot  
2 Longitudinal - length of foot

Condition for faulty transverse arch: push up  
pencil between 1st & 2nd toes

Check knees after 40 min of ft. Exercise of  
feet will be done. Take outline of foot  
by setting foot & clamping on paper.

Get nothing else down on foot than  
cushion - thinnest foot

From College & Hospital

### Treatment -

If due to over-ex. having try to reduce  
wt. by diet, exercise. If too fat get them to  
eat for 14.

If due to long standing or standing long  
wt. is added for at least 1/2 hr.

Good stepping yourself - that does

### Notes:

If treatment fails: gymnastics and the  
direction by gymnastics. But article & change

to 4 Exercises.

1. Compulsive shoes & doesn't matter.

2. Bending.

3. Push down by foot with - 10 lbs. at

4. Has to be a minimum concentration - cycling